

SECTION 01102

ALTERATION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Description

1. Perform all alteration and removal work, including the alteration and removal work incidental to that shown or specified, to complete the alteration and removal work as shown on the DRAWINGS or specified in this SECTION.
2. The Work of this SECTION is the responsibility of the Building Work Contractor.
3. Work in close coordination with the other Contractors on the Project to accomplish the alterations for the whole Project.
4. In addition to WORK shown:
 - a. Modify existing construction that interferes with new construction, to the extent of the interference.
 - b. Cut and later patch all holes and openings in existing construction necessary for connection of building work; for the passage or connection of structural members; and for the building alterations in connection with mechanical and electrical work.
 - c. Properly repair all surfaces left in place and scheduled to be exposed, that have been damaged due to alterations, and damaged surfaces previously concealed that will be left exposed due to alterations, even though such damage was not caused by work of this CONTRACT.
5. Be responsible for a complete job, whether done as work under this SECTION or assigned to the particular trades involved.
6. Make proper and approved connections of new work to existing construction and necessary adjustments of either, or both, to produce a complete and finished project. Patching and new work shall match existing construction, including finishes, painting, unless otherwise shown, or specified, and shall comply with applicable requirements of individual technical Sections of Specifications.
7. To the greatest extent possible removed materials shall be recycled or reused on site to avoid land fill disposal and to meet the intent of LEED NC 2.2, MR Credits 2.1 and 2.2, Construction Waste Management.

B. Occupancy and Use Of Existing Facilities

1. The OWNER will occupy and use the facilities adjacent to the areas of Work during the entire construction period. Plan and coordinate activities with the OWNER in order to provide all necessary controls for the abatement of dust, noise, and inconvenience to OWNER'S personnel during all phases of the Work. Do not shut down any services or block off any areas without prior approval of the OWNER.
2. The OWNER will vacate the existing areas requiring work, to conform with the schedule of work and sequence of construction and will remove all portable items of furniture, equipment and fixtures prior to the start of the work.

3. Coordinate limits the work area required with OWNER to accomplish WORK before OWNER starts vacating areas.

C. Scheduling the Work

1. The work shall be mutually scheduled by the Architectural, Mechanical and Electrical Contractors, and the OWNER to fit the WORK of the separate contracts and of the OWNER'S operations, and to facilitate completion of the WORK.
2. The work may be scheduled during the entire 24 hours of any weekday, provided no laws are violated and that the operations are so conducted as not to create a public nuisance or to disturb the peace. If the WORK is stopped by public authority due to such nuisance, disturbance or law violation, do whatever is necessary to maintain the schedule.
3. Work that will interfere with the OWNER'S operations or use of his facilities, including the shutting down of mechanical and electrical services, shall be scheduled, with the approval of the OWNER, so as to cause a minimum amount of interruption. The scheduling shall consider both the times, the types, and the areas or places of such interferences, and shall include routes and times of ingress and egress of workmen and materials.
4. When existing building is occupied, maintain free, clear, unobstructed, safe egress through existing exits and through and safely beyond new construction as required by state and local fire safety codes.
5. Provide adequate and proper protection, including heat, to the existing buildings and premises occupied by the OWNER during the execution and completion of the Work in such manner that the OWNER'S operations may be carried on without interference, interruption or inconvenience at all times during the construction operations.
6. Phasing Sequence:
 - a. Because of the problems inherent in remodeling the building under conditions of full operation, there must be a high degree of cooperation between all parties involved in the planning and construction process. Consequently, the Work - alteration, removal and new construction - must be planned and executed carefully. Each phased work area shall be complete and cleaned before advancing to the next phasing area.
 - b. Consult and coordinate the work with the other contractors and with the Phasing Plan. A schedule of the work shall be presented to the OWNER for review before starting the work. The work schedule shall be laid out in bar chart form.
 - c. The CONTRACT work schedule shall be based on a normal work week. Should the CONTRACT work fail to progress according to the schedule and if, in the opinion of the ARCHITECT-ENGINEER the Work cannot be completed within the CONTRACT TIME or such extensions thereof as may have been granted, work such additional time over the normal work week, including Saturdays, Sundays, and holidays as required to meet the scheduled time for completion, without additional cost to the OWNER.
 - d. OWNER'S operations outside of specific phased areas in which work is being performed, must be maintained to insure normal operations in such major phased areas. If certain work is required within a work area, and cannot be accomplished so as to maintain the function of operations outside such area, such work when directed by the ARCHITECT-ENGINEER shall be performed on a premium time basis after hours of normal use by such normal operation. Premium time work will be considered

as CHANGES IN THE WORK and will be paid for per the CONTRACT DOCUMENTS.

- e. Clean areas to be put back into service during the phasing sequences. All work must be scheduled. Notify the OWNER 72 hours in advance of when an area is needed to work in that is in use by the OWNER so the OWNER can vacate the area and remove portable equipment, material and furniture.

D. Survey

1. Prior to submitting shop drawings or beginning shop fabrication or field construction of Work in connection with the alterations, survey existing construction including structure, finish and equipment adjacent to construction to be removed. Be responsible for the accurate tie-in of the new work to the existing construction.

E. Conduct Of Operations

1. Conduct operations in such manner as to create a minimum of noise, dust, and other disturbance.
2. Do not allow removed materials, rubbish and debris to accumulate. Keep the construction areas and all public and private property used in connection with the WORK in a neat orderly condition.
 - a. Plan and coordinate activities with the OWNER in order to provide all necessary controls for the abatement of dust, noise, and inconvenience to OWNER'S personnel and operations during all phases of the work. Do not shut down or block off any areas without prior approval of the OWNER.
 - b. Do not interrupt existing utilities except as specified or when approved in writing by the OWNER, and then only after temporary utility services have been provided by the CONTRACTOR and approved by the OWNER.
 - c. Conduct alterations and debris removal in such a manner as to insure minimum interference with streets, walks, passageways and other facilities occupied by the OWNER; such facilities shall not be closed off to traffic or in any way obstructed without prior written permission.
3. At the completion of the Work, remove all temporary enclosures and protective devices and leave the premises clean.
4. Methods shall be such as to assure safe working conditions in accordance with applicable safety laws; to prevent collapse of any section; and to prevent damage to facilities indicated to remain in place and to new construction.

F. Fire Protection

1. Perform thermal and flame-cutting operations per the hazards precaution requirements of the CONTRACT DOCUMENTS.
2. If cutting torches are used, take all precautions necessary to prevent setting of fires, including use of fireproof tarpaulins and maintenance of fire extinguishing apparatus adjacent to cutting area. Also, obtain daily permit from OWNER'S Plant Protection Department for using cutting torches, prior to their use.

G. Removed Materials

1. Removed materials not indicated for turning over to the OWNER or indicated for reuse, as well as rubble and debris resulting from such operations, shall become the property of the CONTRACTOR and shall be removed daily from the PROJECT site and legally disposed of off the PROJECT site.
2. In removing salvageable items that are scheduled or specified for reuse or that are to be turned over to the OWNER, exercise care in removing such items so as not to damage them.
3. If the construction schedule does not allow immediate reinstallation of removed items to be reused, provide adequate storage facilities for such items in storage area designated by OWNER, transport such items to the storage area, store them, and protect them from damage during storage.
4. When the construction schedule calls for installation of stored items to be reused, remove such items from storage, transport them to location(s) of installation, install them, and clean up storage area.

H. Support Of Existing Structure

1. Prior to removing existing construction, provide temporary sheeting, underpinning, shoring and bracing to carry the loads and stresses withstood in place by the items to be removed.
2. Such temporary construction shall be placed so as not to block fire exitways of the existing building, so as not to interfere with OWNER'S operations, and so as to allow space for performing the required alterations.
3. Be responsible for the adequacy of temporary support of structure, as well as for damage to the existing building and contents thereof resulting from inadequate sheeting, underpinning, shoring and bracing.

I. Temporary Partitions And Closures

1. Provide weathertight partitions or closures at exterior openings to isolate the areas from the rest of the building and to protect the building from the elements where alteration operations would expose the interior to the elements.
 - a. Provide weatherproof partitions of wood framing and plywood sheathing (tape joints and paint wood with exterior type paint) where shown or directed, acceptable to the OWNER; provide access doors as required, complete with hardware, lockable where required for OWNER'S security.
 - b. NOTE: Existing exterior walls to be removed may be left in place (where noted approved) to serve as separation walls during construction, and then be removed when approved or directed by the ARCHITECT-ENGINEER and OWNER.
2. Provide dust-tight partitions around interior areas to isolate the areas from the rest of the building where alteration operations would create dust conditions, including dust-tight closures below supported floor slabs when making new openings therein and weathertight closures over roof decks when making new openings therein.
 - a. Where OWNER'S operations, personnel and equipment are subject to flying dust, debris, etc. from removal or construction operations, provide heavy duty vinyl sheet secured to ceiling and floor construction in manner acceptable to the OWNER; where required to permit passage of materials and personnel, sheets shall be overlapped a minimum of three feet.

3. To prevent as much as possible the spread of dust and noise during this work, the following procedures must be followed.
 - a. Where drilling, coring, cutting or other dust-producing operations are contemplated, equip all such equipment with vacuum pick-up devices to hold free dust production to a minimum.
 - b. Where operations are contemplated that will produce noise, clear such operations with the OWNER prior to commencement of such work or provide sound barriers or other noise suppressants to reduce or eliminate air-borne noises.
4. Place temporary partitions so as to provide adequate space to carry on the alteration operations but so as not to interfere with OWNER'S operations, and so as not to encroach on fire exitways of the existing building. Place partitions where shown on DRAWINGS and, if not shown, where approved by the OWNER.
5. Temporary partitions shall be of flame-resistant construction. Submit proposed method of partition construction for approval.
6. Openings made in exterior walls and roof shall be closed the same day that they are opened, either by permanent construction or with vandalproof, weatherproof, dust-tight temporary closures. No openings in exterior walls or roof shall be allowed to remain open; security of the building must be maintained at all times.

J. Protections

1. Provide, and later remove, temporary barriers, warning signs, blinker lights, and other safety measures, as required for the protection of personnel, both OWNER'S and CONTRACTOR'S, and the public per the CONTRACT DOCUMENTS.
2. Adjacent Structures: During the alteration operations, protect from damage, adjacent buildings, pavements and surfaces which are to remain. If adjacent structures are damaged, repair such structures at no cost to the OWNER.
3. Roof: Prior to starting work or allowing traffic on the existing decking, provide approved temporary 3/4 inch thick plywood protection on the existing built-up roofing system during operations on the roof. Be responsible for repairing damage that occurs to the existing built-up roofing system due to CONTRACT operations.
4. Face of Building: Methods for transporting materials between ground and roof and for removing trash, rubbish and debris shall be safe methods which will not damage exterior face of building, endanger persons or damage property.
5. Utilities: Protect existing utilities and services, as well as OWNER'S service systems, within and adjacent to the alteration operations, from damage on account of such operations. If utilities or services are uncovered that are not shown on the DRAWINGS, advise the ARCHITECT-ENGINEER and the OWNER and do not work in the immediate areas until instructed to do so.
6. Disconnect, cap and abandon existing utilities and services exposed as a result of the alteration operations that are not required to remain in use; remove existing services as part of the demolition where so indicated or required; relocate existing services where so indicated or required.
7. Protect the finished floors which are to remain, and over which materials or equipment shall be moved, to preserve the condition of the existing floor. Use not less than 1/4 inch thick plywood or flakeboard laid over heavy duty kraft or red rosin paper with joints lapped.

8. Floor slabs that are to remain which materials or equipment shall be moved across shall be protected to preserve the condition of existing floor. CONTRACTOR is required to survey the existing floor and report all defects (cracks, stains, spalls, etc.) prior to moving on the floor. CONTRACTOR is responsible for damage beyond that which was reported and will be held accountable for all repair work required, including total slab replacement.
9. Whenever materials or equipment need to be lifted over or near an existing, occupied building, give advance notice and arrange with the OWNER to have any potentially endangered spaces vacated. No such lifting shall be done without the permission of the OWNER.

PART 2 PRODUCTS – (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

- A. Make proper and approved connections of new Work to existing construction and all necessary adjustments of either or both as required to produce a complete and finished job. Patching and new Work shall match existing construction, unless otherwise shown or specified, and shall comply with the applicable requirements of the individual technical SECTIONS of the SPECIFICATIONS.

3.2 SALVAGEABLE MATERIALS AND EQUIPMENT

- A. Remove all salvageable materials and equipment to cause the least possible damage thereto. Handle, store and protect all removed items which are to be reused in the Work, or are to be retained as OWNER'S property.
- B. Provide identification tags on all items boxed or placed in containers. Indicate thereon the type, size and quantity of materials.

3.3 WORKMANSHIP

- A. Concrete
 1. When cutting concrete, blade-cut 1-1/2 inches deep (unless other depth is noted) at the surface to achieve straightline edges and leave edges square and without taper or slope. Break out concrete in easily handled volumes and dispose of as directed or specified.
 2. Where required, leave sufficient reinforcing in place to bond to new work; otherwise, cut off flush with face of concrete.
- B. Masonry
 1. When joining new to existing masonry, unless otherwise directed, remove masonry unit from each alternating course so as to toothbond the WORK.

C. Built-Up Bituminous Roofing System

1. Carefully remove existing, built-up roofing system and insulation, if the system includes insulation, as required for new construction and for new openings and penetrations in existing roof where shown.
2. Immediately upon removal of a section of existing roofing system, install temporary water cut-offs in such a manner that rain water and condensation cannot enter the existing built-up roofing remaining in place.
3. Install new single ply membrane roofing system over exposed existing roof structure and new roof structure.

D. Miscellaneous Metals

1. Remove shop-fabricated items as whole units, such as access doors and frames, steel gratings, metal ladders, wire mesh partitions, metal railings, and similar items. Light gage metal items, such as metal gutters, roofing and siding, and similar items shall be salvaged, unless designated as scrap metal.

E. Carpentry

1. Gypsum board, fireboard, and other composition sheathing boards shall be classified as debris.
2. Bolts, nuts, washers and other rough hardware shall be classified as debris.

F. Mechanical Equipment and Fixtures

1. Disconnect mechanical work to be removed at the nearest convenient connection to existing services which are to remain.
2. Salvage each item of equipment and fixtures as a unit; tag and store as directed. Salvage each unit with its normal operating equipment.
3. Do not remove equipment until approved by the OWNER.
4. Disconnect the mechanical equipment and fixtures at fittings. Remove service valves and attach them to the unit.
5. Remove all water, dirt, dust, and foreign matter from units. Drain all tanks, piping, and fixtures and steam clean interiors if previously used to store flammable, explosive, or other dangerous liquids. Seal all openings with caps, plates, or plugs, as approved.
6. Motors attached by flexible connections shall be secured to the unit.
7. Charge the lubricating system with the proper oil or grease, as directed.
8. Disconnect piping at unions, flanges, and valves, and at fittings as required to reduce the pipe into straight lengths for practicable storage. Pile salvaged piping according to size and type, as directed. Piping which previously contained gas, gasoline, oil, or other dangerous fluids shall be carefully dismantled, with precautions taken to prevent injury to persons and property. Store such piping outdoors until all fumes or danger of injury are removed. Box prefabricated supports, hangers, plates, valves, and specialty items according to size and type. Sprinkler heads shall be individually wrapped in plastic bags before boxing. Piping not designated for salvage, or damaged in removal, shall be considered as scrap metal.
9. All removed duct work shall be classified as scrap metal.
10. Remove and salvage all fixtures associated with plumbing, heating, air-conditioning, refrigeration, and other mechanical system installations. Tag fixture units for

identification; store, and protect from damage. Broken, damaged, or otherwise unserviceable units, shall be classified as debris.

11. Remove and salvage all motors and machinery items associated with the plumbing, heating, air-conditioning, refrigeration, and other mechanical system installations. Salvage, box and store the auxiliary units and accessories with the main unit. Tag such items for identification; store, and protect from damage.
12. Verify all existing work. Where existing connections are partial or require modification in order to match or connect Work under this CONTRACT, provide all necessary materials, labor and equipment required to modify the existing work. In addition, maintain integrity of the existing systems. Rectify any contamination, degradation of cleanliness or damage to the existing systems.
13. Refer to 15000 Series SECTIONS of the SPECIFICATIONS for specific directions regarding particular systems.

G. Electrical Equipment and Fixtures

1. Salvage motors, motor controllers, and operating and control equipment and attach to the driven equipment. Salvage wiring systems and components. Box all loose items and tag for identification. Disconnect all primary, secondary, control, communication and signal circuits at the point of attachment to their distribution system.
2. Remove and salvage all electrical fixtures. Remove unprotected glassware from the fixture and salvage separately. Salvage, box and tag lamps and protect from breakage.
3. Remove and salvage all switches, receptacles, switchgear, transformers, regulators, instruments, plates, circuit breakers, panelboards, outlet boxes and similar items. Box and tag for identification according to type and size.
4. Remove and salvage all conductors, including insulated wire, non-metallic sheathed and flexible armored cable. Conductors less than 10 feet in length shall have the insulation removed and stock-piled as scrap metal.
5. Salvage all conduit except where embedded in concrete or masonry. Corroded, bent or damaged conduit shall be stock-piled as scrap metal. Straight, undamaged lengths shall be sorted and stock-piled according to size and type.
6. Remove and salvage all wiring ducts or troughs. Plug-in ducts and wiring troughs shall be disassembled into unit lengths. Remove plug-in or disconnecting devices from the busway, and store separately.
7. Refer to 16000 Series SECTIONS of the SPECIFICATIONS for specific directions regarding particular systems.

H. Access To Disconnect Work

1. Access to areas of work within the existing building, such as for disconnecting and reconnecting mechanical or electrical services that are remote from the actual work area, shall be through the service entrances or the areaway adjacent to such actual work area.

3.4 PRELIMINARY WORK

- A. The OWNER will disconnect and seal the utilities serving each area of alterations or removal prior to the start of the work.

- B. Utilities serving each area of alterations or removal will be shut-off by the OWNER. The CONTRACTOR shall disconnect and seal as required, prior to the start of the work.
- C. Shut off utilities serving each area of alterations or removal as approved by the OWNER. Disconnect and seal as required, prior to the start of the work. In order for the OWNER to have use of such utilities as long as possible, such disconnection in certain areas may need to be done during weekends or other nonregular times.

3.5 MAJOR WORK ITEMS

- A. No attempt has been made to enumerate or describe in detail Scope on the Drawings or herein, each and every alteration and removal work item required as part of the work of this Contract, but only to identify the principal items required. Alteration and removal work includes, but is not limited to, the following work:
 - 1. Modify existing building construction as required for connection and construction of the new work, and related components.
 - 2. Provide new openings in existing construction and block up existing openings as required.
 - 3. Modify existing parapets and roofs required to receive new construction, adjoining new roof, roofing, expansion joints and flashings. Provide new roof openings as required.
 - 4. At existing roof areas specifically noted to be re-roofed, remove existing roofing and insulation down to deck. Install new roof insulation and roofing system as specified.
 - 5. Saw-cut and remove existing concrete floor slabs where noted and as required for new underground services, foundations, etc. Replace removed and damaged portions of concrete slabs that are to remain.
 - 6. Remove existing items such as, railroad rails and ties, fencing, ramps, stairs, railings, guard posts, etc., as required.
 - 7. Salvage and reuse or relocate existing items as specified.
 - 8. Patch holes, openings and damaged areas in floors, walls, ceilings, and roof left by removal of existing, or installation of new piping, ducts, conduits, grilles, diffusers, light fixtures, equipment and other items. Use materials and methods to match the existing surfaces for such patching work.
 - 9. Existing conditions, including Mechanical and Electrical services, which interfere with the installation of the new required work shall be removed by the CONTRACTOR to allow the new construction and then replaced or relocated at the direction of the OWNER, at no additional cost to the OWNER.

3.6 ALTERATIONS

- A. General
 - 1. Cut, patch, repair, and perform other alterations using mechanics skilled in the particular trade of work required. Where required to patch or extend existing construction, or both, match the existing exposed surface materials in finish, color, texture, and patterns.
- B. Cleaning
 - 1. Clean the existing surfaces that are to remain in the areas of work of this CONTRACT. Clean partitions after all work is done in the area.

C. Repairing

1. Repair all damage caused by work of this CONTRACT, at no additional cost to the OWNER.

END OF SECTION

Revision History	
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02-19-09	0

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